

Appl. No : 09/624,023
Amdt. dated : 06/11/04
Reply to Office Action of 03/11/04

REMARKS/ARGUMENTS

Examiner Charles R. Kasenge is thanked for thoroughly reviewing the subject application.

Favorable reconsideration of this application in light of the above amendments and the following remarks is respectfully requested. All claims are believed to be in condition for allowance.

Claim Rejections - 35 U.S.C. § 102

Reconsideration of the rejection of claims 1-18 under 35 U.S.C. 102(e) as being anticipated by Okada (U.S. Patent 6,326,792) is respectfully requested based on the following.

Okada provides a method and apparatus for predicting the lifetime of the breakdown of a dielectric material. More specifically, Okada provides for:

- applying electrical stressing, in the form of applying a voltage or a current, to an (analysis or measurement) dielectric film

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- monitoring a stress mode induced leakage current in the (analysis or measurement) dielectric film, the induced leakage current being a value when breakdown occurs in the (analysis or measurement) dielectric, and
- determining, using statistical analysis and based on the monitored, stress induced leakage current of the (analysis or measurement) dielectric, the breakdown threshold of a to be created layer of dielectric film which has characteristics or properties, such as material used, method of creation and thickness of the to be created layer of dielectric, that are identical with the (analysis or measurement) dielectric.

The differences between the claimed invention and the Okada invention can best be highlighted by quoting claim 1, which specifies the method of digital processing for predicting thin film dielectric properties, underlining in this quote the aspects of the claimed invention that are not provided by Okada, the method comprising:

- a reference data base
- measuring chemical bonding parameters of a thin film dielectric, said measuring chemical bonding parameters comprising Fourier Transform Infrared (FTIR) analysis

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- software based algorithms that predict thin film behavioral characteristics based on thin film parameters
- a software based function that combines the chemical bonding parameters with the predicted thin film behavioral characteristics thereby predicting dielectric properties of the thin film
- a data interconnect between the reference data base and the software based algorithms
- a data interconnect between the software based algorithms and the software based function that combines the chemical bonding parameters with the predicted thin film behavioral characteristics
- an output medium for outputting the predicted dielectric properties of the thin film
- an input medium to the reference data base for supplying the predicted dielectric properties of the thin film to the reference data base, and
- an input medium to the reference data base for supplying the measured chemical bonding parameters of the thin film dielectric of the thin film to the reference data base.

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In sum: Okada depends on measuring leakage currents in a layer of dielectric, the claimed invention depends on measuring chemical bonding parameters of thin film dielectrics, a difference that can be further appreciated by quoting the second paragraph on page 16 of the specification of the claimed invention states:

The various dielectric materials are represented by the sections a, b through section j along the X axis of Fig. 1. For each of the sections that are shown along the X axis, that is for a particular dielectric that is represented by that section, the dielectric chemical bonds are measured using the Fourier Transform Infrared (FTIR) method.

Regarding independent claims 6 and 13, the same observations apply as made with respect to independent claims 1, these observations will not be repeated at this time but are enclosed by reference as being equally applicable to independent claims 6 and 13 of the claimed invention.

Regarding claims 2, 3, 9 and 16, these claims specify important and required aspects of the claimed invention such

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that the claimed invention can be implemented in the preferred manner of the claimed invention by one skilled in the art in a complete and unambiguous manner.

For instance, amended claim 2 specifies that the chemical bonding parameters comprise user defined attributes, which define the thin film dielectric. Amended claim 3 specifies that the reference database contains data segments for defining thin film dielectrics with pointers thereto.

Regarding claims 4, 5, 10, 11, 16 and 17, these claims also and further specify important and required aspects of the claimed invention such that the claimed invention can be implemented by one skilled in the art in a complete and unambiguous manner.

For instance, amended claim 4 specifies the preferred method of the claimed invention for storing calculation results, whereby is preferred by the claimed invention that behavioral prediction algorithms use stored values of the measured chemical bonding parameters and the predicted dielectric properties.

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Claim 5 further specifies the preferred method of the claimed invention of behavioral prediction algorithm mixing and splitting rules, predicting at least one mixing and splitting of thin film dielectric.

Similar comments apply to claims 10, 11, 16 and 17, these claims are required since these claims specify important and required aspects of the claimed invention. Without these claims it would not be possible for one skilled in the art to implement the claimed invention in a complete and unambiguous manner.

Regarding claims 7, 8, 14 and 15, these claims specify important and required aspects of the claimed invention such that the claimed invention can be implemented by one skilled in the art in a complete and unambiguous manner.

For instance, amended claim 7 specifies that user definition of a desired thin film dielectric comprises chemical bonding measurements for at least one thin film dielectric while amended claim 8 specifies that the user definition of a desired thin film dielectric includes user defined attributes for definition of a thin film dielectric.

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Similarly, claims 14 and 15 specify preferred aspects of the claimed invention, which are required for one skilled in the art to completely and unambiguously implement the claimed invention in accordance with the preferred method thereof.

In light of the foregoing response, applicant respectfully requests that the Examiner's objection to the specification be withdrawn.

Other Considerations

No new independent or dependent claims have been written as a result of this office action, no new charges are therefore incurred due to this office action.

It is requested that, should Examiner not find the claims to be allowable, to call the undersigned Attorney at the Examiner's convenience at 845-452-5863 in order to overcome any problems preventing allowance of the claims.

Respectfully submitted,



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